

What is claimed:

1. A method of capturing a negative impression of an anatomical portion of a person, comprising:
  - selecting impression foam having a crush characteristic of substantially constant crushing force over a predetermined range of collapse distances;
  - forcing the anatomical portion into the impression foam to create the negative impression by collapsing the impression foam; and
  - collapsing the impression foam to an extent which falls within the predetermined range of collapse distances throughout the entire negative impression created.
2. A method as defined in claim 1, further comprising:
  - selecting the impression foam to have the crush characteristic in which the predetermined range of collapse distances is at least 80% of an initial thickness of non-collapsed impression foam.
3. A method as in claim 2, further comprising:
  - selecting the initial thickness of non-collapsed impression foam to result in collapsing the impression foam by no more than 80% of the initial thickness at any location on the negative impression.
4. A method as defined in claim 3, further comprising:
  - selecting the impression foam to have the crush characteristic in which the constant crushing force is within the range of 1.50 to 1.85 pounds per square inch.
5. A method as defined in claim 1, further comprising:
  - selecting the impression foam to have the crush characteristic in which the constant crushing force is within the range of 1.50 to 1.85 pounds per square inch.
6. A method as defined in claim 5, further comprising:
  - selecting the impression foam to have the crush characteristic in which the constant crushing force is approximately 1.56 pounds per square inch.
7. A method as defined in claim 5, further comprising:

- selecting the impression foam to have the crush characteristic of a relative lack of structural shear force resistance to cause the impression foam to collapse into the negative impression in a form which substantially exactly  
5 complements the anatomical portion.
8. A method as defined in claim 5, further comprising:  
selecting the impression foam to have the crush characteristic of a relative lack of structural shear force resistance to cause the impression foam to collapse into the negative impression in a form which is substantially free of  
5 displacement or deformation at edges of the negative impression relative to the shape of the anatomical portion.
9. A method as in claim 1, further comprising:  
selecting an initial thickness of non-collapsed impression foam to result in collapsing the impression foam by no more than 90% of the initial thickness at any location on the negative impression.
10. A method as defined in claim 1, further comprising:  
seating or reclining the person on the impression foam to force the anatomical portion into the impression foam.
11. A method as defined in claim 10, further comprising:  
forcing the anatomical portion into the impression foam from weight of the person.
12. A method as defined in claim 1, used for creating a support contour for seat cushion by which to support a pelvic and proximal thigh anatomical portion of the person while sitting, further comprising:  
forcing the anatomical portion into the impression foam to obtain the  
5 negative impression from at least a selected portion of anatomical portion which will be supported on the support contour.
13. A method as defined in claim 12, further comprising:  
forcing the anatomical portion into the impression foam to obtain the negative impression from a full extent of the anatomical portion which will be supported on the support contour;

- 5                    selecting an initial thickness of the impression foam which will collapse within the predetermined range of collapse distances to obtain the negative impression of the full extent of the anatomical portion which will be supported on the support contour; and
- collapsing the impression foam within the predetermined range of
- 10 crush distances at every location of the negative impression of the full extent of the anatomical portion which will be supported on the support contour.
14.    A method as defined in claim 12, further comprising:
- collapsing the impression foam within the predetermined range of crush distances at every location of the negative impression of the selected portion of the anatomical portion which will be supported on the support contour.
15.    A method as defined in claim 14, further comprising:
- selecting an initial thickness of the impression foam which will collapse within the predetermined range of collapse distances to obtain the negative impression of the full extent of the anatomical portion which will be
- 5 supported on the support contour.
16.    A method as defined in claim 14, further comprising:
- sitting the person on the impression foam to force the selected portion of the anatomical portion into the impression foam.
17.    A method as defined in claim 16, further comprising:
- forcing the selected portion of the anatomical portion into the impression foam from weight of the person.
18.    A method as defined in claim 17, further comprising:
- forcing the selected portion of the anatomical portion into the impression foam by applying force to the person beyond the weight of the person.
19.    A method as defined in claim 16, further comprising:
- moving the person through a range of movement while the person is sitting on the impression foam.
20.    A method as defined in claim 19, used for creating a seat cushion for a wheelchair having a seat support structure for supporting the person.
21.    A method as defined in claim 20, further comprising:

positioning the impression foam on the seat support structure of the wheelchair; and

5 sitting the person on the impression foam positioned on the seat support structure.

22. A method as defined in claim 21, further comprising:

maneuvering the wheelchair from actions of the person sitting on the impression foam on the seat support structure.

23. A method as defined in claim 21, further comprising:

moving the person through a range of normal movement while sitting on the impression foam.

24. A method as defined in claim 23, further comprising:

establishing the range of normal movement to encompass the types of movement performed by the person when sitting on the seat cushion during typical use of the wheelchair.

25. A method as defined in claim 21, further comprising:

collapsing the impression foam by moving the person through a range of movement to an extent that the negative impression created encompasses changes in position of the selected anatomical portion of the person.

26. A method as defined in claim 16, further comprising:

removing the person from sitting on the impression foam; and using the negative impression as a mold to create a positive mold configuration of the selected anatomical portion.

27. A method as defined in claim 26, further comprising:

further collapsing the impression foam at selected relief areas of the negative impression to create an adjusted negative impression.

28. A method as defined in claim 27, further comprising:

locating the selected relief areas to obtain further clearance from the support contour at the location of at least one of the ischial tuberosities, greater trochanters, coccyx and sacrum, and the perineal area of the person.

29. A method as defined in claim 28, further comprising:

establishing the extent of further clearance at the relief areas by the extent of further collapsing the impression foam at the relief areas.

30. A method as defined in claim 28, further comprising:

using the adjusted negative impression as a mold to create a positive mold configuration of the selected anatomical portion.

31. A method as defined in claim 30, further comprising:

using the positive mold configuration to define the support contour for the selected portion of the anatomical portion to be supported by the support contour; and

5 molding the support contour of the seat cushion from the positive mold configuration.

32. A method as defined in claim 31, further comprising:

molding the seat cushion from fused together resilient plastic beads.

33. A method as defined in claim 32, further comprising:

fusing the resilient plastic beads together at contact points which permit spaces between the beads to establish air ventilation permeability within the seat cushion.

35. A method as defined in claim 28, further comprising:

removing material from the positive mold configuration at selected support areas to create an adjusted positive mold configuration.

36. A method as defined in claim 35, further comprising:

locating the selected support areas to obtain further protuberance from the support contour at the location of at least one of the lateral posterior buttocks or the proximal thighs of the person.

37. A method as defined in claim 36, further comprising:

establishing the extent of further protuberance at the support areas by the extent of removing material from the positive mold at the support areas.

38. A method as defined in claim 36, further comprising:

using the adjusted positive mold configuration mold to define the support contour for the selected portion of the anatomical portion to be supported by the support contour; and

- 5                    molding the support contour of the seat cushion from the adjusted positive mold configuration.
39.    A method as defined in claim 38, further comprising:  
         molding the seat cushion from fused together resilient plastic beads.
40.    A method as defined in claim 39, further comprising:  
         fusing the resilient plastic beads together at contact points which permit spaces between the beads to establish air ventilation permeability within the seat cushion.
41.    A method as defined in claim 26, further comprising:  
         removing material from the positive mold configuration at selected support areas to create an adjusted positive mold configuration.
42.    A method as defined in claim 41, further comprising:  
         locating the selected support areas to obtain further protuberance from the support contour at the location of at least one of the lateral posterior buttocks or the proximal thighs of the person.
43.    A method as defined in claim 42, further comprising:  
         establishing the extent of further protuberance at the support areas by the extent of removing material from the positive mold at the support areas.
44.    A method as defined in claim 42, further comprising:  
         using the adjusted positive mold configuration mold to define the support contour for the selected portion of the anatomical portion to be supported by the support contour; and
- 5                    molding the support contour of the seat cushion from the positive mold configuration.
45.    A method as defined in claim 44, further comprising:  
         molding the seat cushion from fused together resilient plastic beads.
46.    A method as defined in claim 45, further comprising:  
         fusing the resilient plastic beads together at contact points which permit spaces between the beads to establish air ventilation permeability within the seat cushion.
47.    A method as defined in claim 26, further comprising:

using a selected portion of the positive mold configuration to define the support contour for the selected portion of the anatomical portion to be supported by the support contour; and

- 5                   molding the support contour of the seat cushion from the selected portion of the positive mold configuration.

48.    A method as defined in claim 47, further comprising:  
          molding the seat cushion from fused together resilient plastic beads.

49.    A method as defined in claim 48, further comprising:  
          fusing the resilient plastic beads together at contact points which permit spaces between the beads to establish air ventilation permeability within the seat cushion.

50.    A method as defined in claim 16, used for creating a seat cushion for a wheelchair having a support contour for supporting the cushion, further comprising:

- 5                   positioning the impression foam on the seat support structure of the wheelchair; and

          sitting the person on the impression foam positioned on the seat support structure.

51.    A method as defined in claim 16, used for creating a seat cushion for a wheelchair having a shell seat for supporting the cushion and the person within the shell seat, further comprising:

- 5                   positioning the impression foam in the shell seat; and  
          sitting the person on the impression foam positioned in the shell seat.

52.    A method as defined in claim 16, used for creating a seat cushion for a wheelchair having a support contour for supporting the cushion, further comprising:

- 5                   positioning the impression foam on a seating simulator; and  
          sitting the person on the impression foam positioned on the seating simulator.

53. A method as defined in claim 19 used for creating a seat cushion for a wheelchair having a support contour for supporting the cushion, further comprising:

- 5 positioning the impression foam within a container to protect the impression foam from inadvertent collapse;
- transporting the impression foam within the container to the location of the person;
- obtaining the negative impression from the person in the impression foam at the location of the person;
- 10 transporting the impression foam containing the negative impression to a fabrication location which is substantially remote from the person; and
- fabricating the seat cushion at the fabrication location with at least a portion of the support contour derived from a mold obtained from at least a portion of the negative impression.

54. A method as defined in claim 53, further comprising:

protecting the negative impression created in the impression foam from inadvertent collapse while transporting the impression foam containing the negative impression from the location of the person to the fabrication location.

55. A method as defined in claim 54, further comprising:

transporting by mail the impression foam containing the negative impression from the location of the person to the fabrication location.

56. A method as defined in claim 1, further comprising:

positioning the impression foam within a container having sides which surround the impression foam at locations other than which the negative impression is formed.

57. A wheelchair seat cushion formed by the method defined in claim 38.

58. A method of fabricating a seat cushion having a support contour for supporting a person at a pelvic and proximal thigh anatomical portion of the person, comprising:

- 5 capturing a negative impression of a pelvic and proximal thigh anatomical portion;

creating a positive mold configuration of the anatomical portion using the captured negative impression; and

- 10 fusing together a plurality of resilient plastic beads into a support structure which encompasses at least a portion of the positive mold configuration which defines the support contour for the seat cushion.

59. A method as defined in claim 58, further comprising:

fusing the resilient plastic beads together at contact points which permit spaces between the beads to establish air ventilation permeability within the seat cushion.

60. A wheelchair seat cushion formed by the method defined in claim 59.